

CLAIMS

1. A network relay apparatus comprising:

a routing information gathering unit for determining the maximum transmission unit of a transmission path along a route over which packets are to be transmitted; and

a combining unit for assembling a combined packet by combining packets up to a length that does not exceed the maximum transmission unit of said transmission path.

2. An apparatus according to claim 1, wherein said combined packet carries as a destination address the address of an endpoint of the route over which said packets are transmitted in combined form, said apparatus further comprising:

a disassembling unit for disassembling a received combined packet into individual packets if the destination address of said received combined packet matches the address of said apparatus.

3. An apparatus according to claim 1, further comprising a routing processing unit for selecting a path having the largest maximum transmission unit as a path for said combined packet from among a plurality of transmission paths to the same destination.

4. An apparatus according to claim 3, wherein said routing processing unit selects a path having the largest maximum transmission unit as a path for said combined packet from among a plurality of transmission paths to the same destination by excluding the path along the shortest route.

5. An apparatus according to claim 1, further comprising a combine allow/disallow determining unit for determining, based on a packet attribute, whether or not said combining unit should be made to combine packets.

6. An apparatus according to claim 1, further comprising a reassembling unit for disassembling a received combined packet into individual packets and

5 7. A method of combining packets, comprising the
steps of:

10 assembling a combined packet by combining
packets up to a length that does not exceed the maximum
transmission unit of said transmission path.

15 address of an endpoint of the route over which said
packets are transmitted in combined form, said method
further comprising the step of:

20 said received combined packet matches the address of an
 apparatus that received said combined packet.

25 combined packet from among a plurality of transmission
paths to the same destination.

30 packet from among a plurality of transmission paths to
the same destination by excluding the path along the
shortest route.

35 attribute, whether to combine or not combine packets.

12. A method according to claim 7, further comprising the step of disassembling a received combined

packet into individual packets and reassembling the same into a combined packet of a length not exceeding the maximum transmission unit of the currently selected path if the length of said received combined packet exceeds
5 said maximum transmission unit.